

Appl. No. :10/528,209
Declaration of Peter Ford



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln No: 10/528,209
Applicant: Elaine STEPHEN
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For : RESTRAINING APPARATUS
Art Unit: 1772
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Commissioner of Patents and Trademarks
PO Box 1450
Alexandria VA 22313-1450

DECLARATION OF PETER BRADEN FORD UNDER 37 C.F.R. 1.132

S I R:

- 1) I, Peter Braden Ford of 95 Coverside Road, Great Glen, Leicestershire, United Kingdom, LE8 9EB, hereby declare and state as follows:
- 2) I have worked in the field of Product Design for 24 years. My particular interest is in the design and development of a wide range of products that includes toys. My Curriculum Vitae is attached hereto as exhibit 1. My current position is Principal lecturer and Reader in Product Design and Head of Commercial Design for the Faculty

of Art and Design at De Montfort University (DMU) in the United Kingdom. My post started at De Montfort University in September 1991. Prior to this I spent 9 years in product design consultancy initially for the London based design group BIB (Butler Isherwood and Bartlett) and secondly for the Leicester based design consultancy Jones Garrard Ltd. My duties at De Montfort University include teaching/supervision at Undergraduate (BA and BSc), Post Graduate and Doctoral level in connection with course relating to product design. In addition I undertake Product Design Consultancy and Design Research for external companies and clients on a commercial basis. As Head of Commercial Design at DMU I also co-ordinate and manage a number of regional, Government funded product design initiatives.

- 3) While teaching and supervising student work at all the above levels, toys have often been the basis of many of these projects. First and second year undergraduate product design students are specifically instructed in toy design. The supervision of a major project in toy design will span initial concept generation right the way through to detailed development, prototyping and specifications for production.
- 4) I am an author or co-author of the various international papers relating to the role of Product Design in industry and in education that are listed in attached exhibit 1.
- 5) I have designed and developed over 30 commercially successful products and have been responsible for clients investing several million GB pounds in capital investment in connection with these designs. I am currently running 3 major design initiatives within the East Midlands region of the UK involving over 2.5 million GB pounds (4.91M US\$) of Government investment. On the basis of this success the Design

Development section of DMU has recently been nominated for a Times Higher Award in the category of 'Outstanding Contribution to Innovation'. Details of the award are listed in attached exhibit 1.

- 6) I have read and understood PCT/GB2003/004159, which corresponds to US Application Serial No. 10/528,209. I have also read and understood the amendment and response to Office action that was mailed on September 13, 2007, the Office Action dated October 12, 2007 issued on the application, and the prior art documents of US 6,435,931 (Yeager), US 2,275,983 (Nadeau) and US 4,321,734 (Gandelman), which were mentioned in the most recent Office action dated October 12, 2007.
- 7) The invention in the application US 10/528,209 relates to a restraining apparatus, particularly for children, in which the apparatus has a spine member with lateral attachment members adapted to couple respective first and second users to the spine member, a stiffening member to enhance rigidity in the vertical plane of the spine, and a releasable fastener device for coupling each user to an attachment member. Fundamentally the Stephen device is an engineered safety product (it is not a toy); it can restrain 2 to 6 children to a semi-rigid articulating structure typically via harness and buckle attachments. Children typically walk in pairs side by side. Differing child heights, unevenness of walking surfaces (steps for example) are all accommodated in the articulated system. This articulated system combined with the use of semi-rigid materials in its construction provides safety should a child stumble and fall. A number of tamper features are incorporated into the design that enable supervisors to remove children via the harness to product buckle/latch and to disassemble the product but which prevent the children from doing so. Supervisors are therefore able to easily

disassemble the product and pack it away into a carry bag. As has been stated the children are physically attached to a semi rigid structure, the fact that the product incorporates 'D' shaped handles for the children to hold onto is not essential for the operational performance of the product but are there largely for the comfort and interaction of the children.

- 8) The Yeager product is essentially a toy which does not employ buckles or harnesses but 'contains' the children (and adults front and back), in a straight line in open compartments with gaps that allow children and adults to freely enter and leave ('ingress' and 'egress') the compartments of the product at any time of their choosing. There is no credible definition of how the product is constructed, and it is impossible to give any prediction on the stiffness of this product. Children are not restrained, they are merely accommodated within the open compartments for as long as they want to hold onto the handle, and can freely leave the compartment to run off at a time of their choosing, which is in keeping with the toy nature of the Yeager product. Simply this product is all about the imagery associated with the lead character, and it is merely a toy that helps with character role play, it is not a child safety product by any stretch of the imagination.
- 9) The fundamental rationale for the Yaeger product is to 'sufficiently stimulate' children to want to stay voluntarily with the rest of the child group through play and its inherent role play imagery. Specifically the Yaeger patent clearly defines the use of 'tethers, buckles, rings and poles' as a possible contributor to 'injuries related to entanglement, pinching, pulling, jarring and tripping'. In addition rather than contributing to role play

imagery Yeager clearly implies that 'tethers, buckles, rings and poles' are seen as 'leash-like as in controlling animals'.

10) The Nadeau product is relatively straightforward and is essentially a toddler training harness with handle for an older child attached to a short rigid stem which is in turn attached to a rigid loop. The rigid stem is relatively short and merely provides a method of distancing the combination of handles or harnesses away from the hand of the supervisor/parent. Essentially the product is flexible with no inherent structural content.

11) The Yeager and Nadeau are fundamentally incompatible and therefore cannot be combined. Yeager strongly criticizes the use of 'tethers, buckles, rings, and poles' as being contradictory to creating a role play product that stimulates children to want to play and remain together voluntarily, referring to them as potentially dangerous, 'leash-like' and 'controlling'. The Nadeau patent is purely a restraining product based on tethers, buckles, rings, and poles. To combine Nadeau with Yeager would therefore fundamentally contradict the fundamental working/operational principle of the Yeager product. I would not consider that Nadeau has any features that would enhance the Yeager product, and I would not be tempted to combine any features from the Nadeau product into the Yeager design, because the fundamental way that the Yeager product works is by attracting the children voluntarily using the visual imagery of the toy, rather than any kind of tether. In addition to going against the whole idea in Yeager of relying on voluntary attraction and avoiding tethering, I notice that as the Nadeau design is purely a functional tether, there is nothing that makes it fun or attractive for children

and therefore I would not, as a skilled person, regard the Nadeau patent as having anything to offer in terms of features that could be combined with the Yeager design.

12) The Gandelman product is just a buckle. It has no relevance to the Yeager product, especially since the Yeager product places such importance on avoiding any kind of fixed tethers. Also like the Nadeau product, there is nothing in the Gandelman device that suggests to me that it uses visual stimulation to attract the children voluntarily. I would not be tempted to incorporate any features from the Gandelman product into the Yeager design, because of this prejudice in Yeager against buckles and other tethering devices.

13) I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that wilful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful false statements may jeopardize the validity of the above-mentioned application or any patent issued thereon.

Date: 14th January 2008

Signed:



Peter Braden Ford

Curriculum Vitae

Peter Ford

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Date of birth	16 th September 1961
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Current Status

- Principal lecturer in Industrial Product Design at De Montfort University
- Principal consultant for the De Montfort University Design Unit

Faculty:	Art and Design
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Department:	Product and Spatial Design
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Current Activities

I am one of a team concerned with the development and delivery of the 3-year BA (hons) Product, BA (hons) Furniture and 4-year BSc (hons) Industrial Design degree courses at De Montfort University. The BA courses are delivered entirely by Art and Design while BSc Industrial Design is jointly delivered with the Faculty of Computing Science and Engineering.

These courses are highly regarded both nationally and internationally. Students regularly achieve major student design awards such as Royal Society of Arts Bursaries, Dyson Student Design Awards and the Audi Foundation Student Design Award. In 2004 alone our students won 5 major awards at the New Designers exhibition at the Design Business Centre Islington including the Audi Foundation Student Design Award for the second year running. This achievement was more than twice that of any other participating design college.

A mark of the quality of these two courses is the high percentage of students being recruited into the design profession upon graduation. For example, on average, 25% of the past four years of graduating BSc students have been employed before graduation.

In addition to the above I tutor/supervise at Masters and Doctorate level within the Faculty.

In 1992/3 I established the De Montfort University Design Unit. Since then a considerable amount of commercial design consultancy has been undertaken for national and international clients with myself as the main contributor.

The Design Unit and its work has proved a valuable asset, generating income, case studies, professional development opportunities and significant prestige for the Department, the Faculty and the University. In addition it contributed to the 2002/2003 RAE exercise.

Its presence was a major factor in encouraging the BBC to select De Montfort University to work with NESTA and themselves on the recent Innovation Nation program aired in November/December 2003.

The Design Unit has made and continues to make a significant contribution to the Universities efforts to foster links with our Regional Development Agency (EMDA) and the Leicestershire Economic Partnership (LSEP) and will continue to make a valuable contribution to the Universities response to the *Lambert Review (Lambert Review of Business University Collaboration, 2003)* and the topic of *Knowledge Transfer*.

The Design Unit also played a significant part in De Montfort Universities 100% successful HEIF 2 bid, accounting for £ 200,000 of the 3.5 million bid (see *regional development and funding*).

Specific Undergraduate Teaching

I tutor both BA Product and Furniture Design students and BSc Industrial Design students at all three levels on a wide range of Design Products (DESP) modules.

Predominantly I tutor the key design modules but have tutored technology and illustration modules in the past and am able to tutor CAD modules should this be a requirement.

Validations

I contributed to the Product and Furniture Design submission material and was a member of the 1992 panel team for the validation of the *Design and Manufacture Modular Scheme*.

I was a member of the validating panel for the Art and Design PGCE course at Bedford in 1995.

I played a major role (see course/curriculum development) in producing the documentation and was a key panel member when BA Product and Furniture were validated as 'stand alone' courses in 1996.

I was a member of the validation panel for the MSc Product Design Engineering course at Birmingham UCE in September 2004.

Course/Curriculum Development

As part of the course development and validation exercises undertaken in 1992 and 1996, I played a major role in the development of the Product, Furniture and Industrial Design courses as they are currently delivered.

In particular I was responsible for establishing the innovative method of applying generic teaching, learning and assessment criteria within modules across disciplines.

This has enabled Product, Furniture and Industrial Design students to undertake the same modules taught by the same staff, keeping module count across the discipline low and making for an extremely efficient distribution of staffing.

For example if BA Furniture Design and BSc Industrial Design students undertake a design module predominantly concerned with innovation, the Furniture student will experience innovation in the design of an item of furniture whereas an Industrial Design student will undertake the same project in the context of an item of capital equipment.

I am currently one of the team developing a four-year Mdes programme in Design Products, to be validated for the 2005/2006 academic session.

I am currently a member of a steering group considering the development of a new provision within the Faculty relating to a Retail/Innovative packaging design.

Quality Audits and Reviews

I participated in the 2002 Art and Design QA audit producing/collating a considerable amount of data and material for the exercise as well as playing a major role as a panel member in the Teaching and Learning audit group.

I am currently involved in producing/collating data for the internal Periodic Review of the Design Products Subject, scheduled for 2006.

Accreditation

I played a key part in the successful 2001 Institute of Engineering Designers (IED) accreditation of the BSc (hons) Industrial Design course. The course received full IED accreditation in addition to I eng status, enabling these students to obtain Incorporated Engineering status in the future should they wish.

The course was re accredited in June 2004. It was highly commended by the IED, maintaining its IED and I eng accreditations for a further 5 years.

External Examining

I am currently the External Examiner for the BA/BSc Product Design course at Bournemouth University (2002/2003 to 2006/2007).

Research

Research is currently concerned with the designer as manufacturer, that is the designer using rapid manufacturing techniques to produce bespoke products for very specific applications.

In particular it is intended to utilise these techniques in the design of and development of specific products for the physically handicapped.

I am also part of a team investigating combining digital holography and hap tic devices in product interfaces.

Work of the Design Unit made a valuable contribution to the 2002/2003 RAE audit within the Faculty of Art and Design and should continue to do so in the next audit.

Product and Industrial Design and Development/Manufacture, features prominently in the 2004 Faculty of Art and Design Research Strategy.

PhD Supervision

1999 to 2003, Nigel Mills. *'Henry Lawson and his role in the British Motor Industry'*

Papers and Publications

2nd National Conference on Product Design Education (Coventry University July 1995)
Industrial Design Consultancy and the Student Experience

3rd National Conference on Product Design Education (Lancashire University July 1996)
The Value of a Product Design Consultancy Within a Design Faculty and how it can be Managed

4th National Conference on Product Design Education (Brunel University July 1997)
Undertaking a major Design Project for a Significant UK Company and the Benefits to an Industrial Design Course.

2nd International Engineering and Product Design Education Conference (Delft University September 2004)

Joint paper (Peter Ford and Michael Marsden). 'CAD and Fostering Creativity within the Studio Environment.'

3rd International Engineering & Product Design Education Conference, (Edinburgh 15-16 September 2005).

Joint paper (Peter Ford and Michael Marsden). 'The Reality of Working with Local SME's, Design Agencies and an RDA in the Light of the Lambert Review'.

3rd International Engineering & Product Design Education Conference, (Edinburgh 15-16 September 2005).

Joint paper (Michael Marsden and Peter Ford). 'Volume production and the Generic Teaching, Learning and Assessment of Product and Furniture design'.

BBC Innovation Nation

I was responsible for establishing the three teams and organising/supervising the progress of all three projects for the BBC Innovation Nation programme shown November/December 2003.

I had particular responsibility for the design development and prototyping of the swimmers mask (Amoeba), currently being developed by Zoggs.

The programme provided De Montfort University with a considerable amount of BBC 1 'prime time' publicity.

Regional Development Collaboration and Funding

LSEP Improving Business by Design

I was responsible for bid preparation, project implementation and management of the *Improving Business by Design* initiative in Leicester (September 2003 to March 2004) funded by the Leicestershire Economic Partnerships (LSEP). The exercise was to investigate where Industrial Design could assist New Product Development in the region.

LSEP are funded by the East Midland Development Agency (EMDA)

This £ 75,000-00 exercise has been very successful with over 50 viable projects having been identified, paving the way for a further 2 years (June 2004 to March 2006) of funding to undertake the projects themselves.

This will also involve a number of Leicestershire's Industrial Product design groups. The project will be worth £ 850,000-00 in total.

HEIF (Higher Education Innovation Fund) 2 funding

The Design Unit contributed to De Montfort Universities 100% successful HEIF 2 bid in 2004, accounting for £ 200,000-00 of the 3.5 million bid. The £ 200,000-00 is to fund infrastructure for the Design Unit assisting it to develop in 2004/2005 and 2005/2006. 50% of the funding is being used to 'match fund' the next stages of the LSEP bid project, the remaining 50% will be used to progress design consultancy work in addition to LSEP.

Improving Business by Design has proven to be tremendously successful, gaining a mention by Lord Sainsbury of Turville to the DTI on 22nd November 2005:

'De Montfort University's Improving Business by Design Programme links academic design expertise with design and manufacturing companies to design and develop new innovative products. For example, the development of a wheelchair that can be used with standard gymnasium and sports equipment, with a potential first year market of £5.5m.

Overall, Improving Business by Design can demonstrate a 14:1 return on public sector investment through the development of new markets for UK design and manufacturing companies. Improving Business by Design is funded through HEIF2 and the Leicestershire Economic Partnership'.

The Design Works

The success of Improving Business by Design has encouraged EMDA and LSEP to invest a further £ 450,000-00 (to be matched by HEIF 3 funding) into continuing the initiative with a sub-regional design centre to be called the Design Works.

EMIN funding

The Design Unit has secured £ 35,000-00 for the next two years to monitor and administer the Product and Industrial Design sections of the EMIN (East Midlands Incubation Network) portal, to contribute to enhancing performance and communication within the local design and manufacturing community.

EMDA

I am currently a member of the EMDA team investigating the structure of the 'Creative Industries' in the region which is trying to determine if the 'creative industries' are a genuine regional cluster.

In total between September 2003 and March 2007, the above regional development and HEIF 2 funding will have contributed £ 1,785,000-00 of funding to De Montfort University and the sub-regional economy.

Design Consultancy

The De Montfort University Design Unit that I established in 1992/93 has consistently undertaken a significant amount of work for a wide range of National and International companies. With limited resource the Design Unit has consistently achieved an annual turn over of between £ 50,000-00 to £ 110,000-00 in addition to all the regional development work.

Typically in 2003/2004 the Design Unit undertook:

- The BBC Innovation Nation project at £ 60,000-00
- The LSEP Improving Business by Design project at £ 75,000-00
- Other design work at £ 50,000-00

In total over £ 185,000-00 of design activity.

With further LSEP and HEIF 2 funding and with projects being consistently referred to the Design Unit as a result of the Innovation Nation programme (recent recommendations from the National Endowment for Science and technology (NESTA) who funded the Innovation Nation programme); the Design Unit is set to grow quite considerably over the next few years.

It is hoped to continue to integrate aspects of the Design Units work into the student learning experience.

Education

Graduated 1983 from Leicester Polytechnic

BA (HONS) Industrial Design (Engineering). **First class**

Winner of the 1983 Royal Society of Arts Bursary, Electrical Home Bureau student design award.

Winner of the 1982 Zinc Development Association student design award.